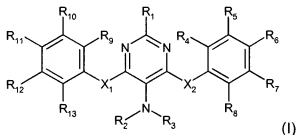


Amendments to the Claims

Amendments are shown with additions and deletions or [[deletions]] as useful for clarity. This listing will replace all prior versions and listings of the claims in the application.

We Claim:

Claim 1. (Withdrawn) A method of controlling ectoparasites on a mammal comprising administering to said mammal a compound of formula I



wherein

R₁ is hydrogen, halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl, NR₂R₃, unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl, halo-C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, halo-C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl or unsubstituted or one-to five-fold substituted benzyl, the substituents selected from the group consisting of halogen cyano, OH, SH NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-Alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl and halo-C₂-C₆-alkenylsulfonyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, cyano, nitro, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl, C₁-C₆-alkylamino, di-C₁-C₆-alkylamino, C₁-C₆-alkylsulfonylamino, halo-C₁-C₆-alkylsulfonylamino, C₁-C₆-alkylcarbonyl, halo-C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl, or unsubstituted or one-to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃;

X₁ and X₂, independently of one another, are C(R₁₄)(R₁₅), NR₁₄, O, S, SO or SO₂; and

R₁₄ and R₁₅, independently of one another, signify hydrogen, C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl or halo-C₁-C₆-alkylcarbonyl.

Claim 2. (Withdrawn) The method of claim 1, wherein

R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₁-C₆-alkylthio or halo-C₁-C₆-alkylthio.

Claim 3. (Withdrawn) The method of claim 1, wherein

R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy or halo-C₁-C₆ alkoxy.

Claim 4. (Withdrawn) The method of claim 1, wherein

R₁ is hydrogen, C₁-C₆-alkyl or C₁-C₆-alkoxy.

Claim 5. (Withdrawn) The method of claim 1, wherein

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl or unsubstituted or one- to five-fold substituted benzyl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆ alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆ alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl and halo-C₂-C₆-alkenylsulfonyl.

Claim 6. (Withdrawn) The method of claim 1, wherein

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl or benzyl.

Claim 7. (Withdrawn) The method of claim 1, wherein

R₂ and R₃ independently of one another, signify hydrogen, C₁-C₂-alkyl, benzyl or formyl.

Claim 8. (Withdrawn) The method of claim 1, wherein

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, cyano, nitro, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio or unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃.

Claim 9. (Withdrawn) The method of claim 1, wherein

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro, C₁-C₄-alkyl, halo-C₁-C₄-alkyl, C₁-C₄-alkoxy or halo-C₁-C₄-alkoxy.

Claim 10. (Withdrawn) The method of claim 1, wherein

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro, C₁-C₂-alkyl or halo-C₁-C₂-alkyl.

Claim 11. (Withdrawn) The method of claim 1, wherein

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro or CF₃.

Claim 12. (Withdrawn) The method of claim 1, wherein

X₁ and X₂, independently of one another, are NR₁₄, O or S.

Claim 13. (Withdrawn) The method of claim 1, wherein

X₁ and X₂, independently of one another, are NH, O or S.

Claim 14. (Withdrawn) The method of claim 1, wherein
X₁ and X₂ are O.

Claim 15. (Withdrawn) The method of claim 1, wherein
R₁₄ and R₁₅, independently of one another, signify hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl.

Claim 16. (Withdrawn) The method of claim 1, wherein
R₁₄ and R₁₅, independently of one another, signify hydrogen or C₁-C₄-alkyl.

Claim 17. (Withdrawn) The method of claim 1, wherein
R₁₄ and R₁₅ signify hydrogen.

Claim 18. (Withdrawn) The method of claim 1, wherein
R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₁-C₆-alkylthio or halo-C₁-C₆-alkylthio;
R₂ and R₃, independently of one another, signify hydrogen, C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl or benzyl;
R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, cyano, nitro, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio or unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-

alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃;

X₁ and X₂, independently of one another, are NR₁₄, O or S; and

R₁₄ signifies hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl.

Claim 19. (Withdrawn) The method of claim 1, wherein

R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy or halo-C₁-C₆-alkoxy;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro, C₁-C₄-alkyl, halo-C₁-C₄-alkyl, C₁-C₄-alkoxy or halo-C₁-C₄-alkoxy; and

X₁ and X₂, independently of one another, are NH, O or S.

Claim 20. (Withdrawn) The method of claim 1, wherein

R₁ is hydrogen, C₁-C₆-alkyl or C₁-C₆-alkoxy;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₂-alkyl, formyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro, C₁-C₂-alkyl or halo-C₁-C₂-alkyl; and

X₁ and X₂ are O.

Claim 21. (Withdrawn) The method of claim 1, wherein

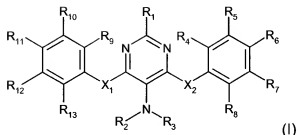
R₁ is hydrogen, C₁-C₆-alkyl or C₁-C₆-alkoxy;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₂-alkyl, formyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃ independently of one another, are hydrogen, halogen, nitro or CF₃; and

X₁ and X₂ are O.

Claim 22. (Currently amended) An ectoparasitocidal composition for administration to a non-human animal comprising a compound of formula I



wherein

R₁ is hydrogen, halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy; halo- C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, halo-C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl, NR₂R₃, unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo- C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl, halo-C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, halo-C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl or unsubstituted or one-to five-fold substituted benzyl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-

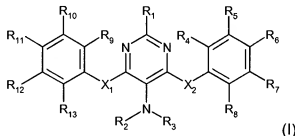
alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl and halo-C₂-C₆-alkenylsulfonyl;
R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, cyano, nitro, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl, C₁-C₆-alkylamino, di-C₁-C₆-alkylamino, C₁-C₆-alkylsulfonylamino, halo-C₁-C₆-alkylsulfonylamino, C₁-C₆-alkylcarbonyl, halo-C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl, or unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-X₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃;
X₁ and X₂, independently of one another, are C(R₁₄)(R₁₅), NR₁₄, O, S, SO or SO₂; and R₁₄ and R₁₅, independently of one another, signify hydrogen, C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl or halo-C₁-C₆-alkylcarbonyl;
and at least one of a physiologically acceptable carrier or dispersant.

Claim 23. (Previously presented) The ectoparasitcal composition according to claim 22 wherein said composition is in a pour-on or spot-on formulation.

Claim 24. (Previously withdrawn; Currently amended) A method of controlling ectoparasites comprising administering an effective amount of ~~at least one compound of formula I a~~ composition according to claim ~~[[1]]~~ 22 to the habitat of the parasites.

Claims 25-26. (Cancelled)

Claim 27. (Currently amended) An ectoparasitidal composition for administration to a non-human animal comprising a compound of formula I



wherein R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₁-C₆-alkylthio or halo-C₁-C₆-alkylthio;

R₂ and R₃, independently of one another, signify hydrogen, C₁-X₆-alkyl, formyl, C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, cyano, nitro, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio or unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃;

X₁ and X₂, independently of one another, are NR₁₄, O or S;

R₁₄ signifies hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl; and at least one of a physiologically acceptable carrier or dispersant.

Claim 28. (Previously presented) The composition of claim 27, wherein

R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy or halo-C₁-C₆-alkoxy;
R₁ and R₃, independently of one another, signify hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen
halogen, nitro, C₁-C₄-alkyl, halo-C₁-C₄-alkyl, C₁-C₄-alkoxy or halo-C₁-C₄-alkoxy; and X₁ and X₂,
independently of one another, are NH, O or S.

Claim 29. (Previously presented) The composition of claim 27, wherein

R₁ is hydrogen, C₁-C₆-alkyl or C₁-C₆-alkoxy;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₂-alkyl, formyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen
halogen, nitro, C₁-C₂-alkyl or halo-C₁-C₂-alkyl; and

X₁ and X₂ are O.

Claim 30. (Previously presented) The composition of claim 27, wherein

R₁ is hydrogen, C₁-C₆-alkyl or C₁-C₆-alkoxy;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₂-alkyl, formyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen,
halogen, nitro or CF₃; and

X₁ and X₂ are O.

Claim 31. (New) The composition of claim 27, wherein

R₁ is hydrogen, C₁-C₆-alkyl, or C₁-C₆-alkoxy;

each of R₂ and R₃, independently of one another, signify hydrogen, C₁-C₂-alkyl, or formyl;

each of R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are
hydrogen, fluorine, or CF₃; and

each of X₁ and X₂ are O.

Claim 32. (New) The composition of claim 31, wherein R₂ and R₃ each signify hydrogen.

Claim 33. (New) The composition of claim 32, wherein R₁ is hydrogen.

Claim 34. (New) The composition of claim 27, wherein the compound is 4,6-bis-(4-fluoro-3-(trifluoromethyl)phenoxy)-pyrimidin-5-ylamine.

Claim 35. (New) The composition of claim 27, wherein the endoparasites are ticks and the non-human mammal is a warm-blooded animal.

Claim 36. (New) The composition of claim 27, wherein the composition is formulated as a pour-on or spot-on formulation, wherein said formulation is applied locally on a small area of the non-human animal but gives protection or treatment to almost any part of said non-human animal.